

## An unusual cause of chest pain: Atrial myxoma

Cause of chest pain: Atrial myxoma

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**Abstract**

Myxomas are the most common primary tumors of the heart. It usually occurs in the left atrium and ventricle, and rarely in the right atrium. A middle-age patient presented to our clinic with chest pain and difficulty in breathing. Patient had no previous cardiac history. Contrast-enhanced thorax computed tomography (CT) angiography showed a mass lesion in the right atrium and ventricle. Transthoracic echocardiography performed by the cardiologist of the patient revealed a 58 x12 mm mobile mass extending from the inferior vena cava (IVC) mouth to the top of the tricuspid valve. Transesophageal echocardiography (TEE) was recommended. Transesophageal echocardiography was performed. In the right atrium and in the right ventricle, a moving crescent-shaped 12x15 mm lesion extending over the tricuspid valve stretching out to the inferior vena cava bifurcation from the IVC mouth with a crescent-shaped 200x58 mm moving lesion were observed. Histopathological examination of the operation performed by cardiovascular surgery was compatible with myxoma. Myxomas may be asymptomatic in the left atrium, reaching to very large dimensions and rarely present in the right atrium and valve involvement. Cardiac myxomas should be remembered as a rare cause in young patients who come to the emergency department with nonspecific symptoms such as chest pain and shortness of breath.

**Keywords**

Angina; Myxoma; Right atrium

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Introduction

70-75% of cardiac tumors are benign. Myxomas are common in primary cardiac tumors and their incidence is between 30 and 50% [1]. Approximately 85% of cardiac myxomas are found in the fossa ovalis in the left atrium; 18% are located in the right heart [2]. Right atrial myxomas tend to be more solid and broad-based than left atrial myxomas. They sit on the atrial wall or septum with a larger base than the myxomas on the left [3]. Diagnosis is made by echocardiography in almost all myxomas [4]. Although myxomas mimic many cardiovascular diseases, doubt is the most important point for early diagnosis [5].

Case Report

A middle-age patient presented to our clinic with chest pain and difficulty in breathing. The patient had no previous cardiac history. The patient stated that these complaints had not occurred before and that the patient had applied because of the occurrence and exacerbation of the last few days. There was no additional disease except hypertension. Physical examination revealed fever of 36.4 ° C; pulse 88 beats/minute; blood pressure was 150/90 mmHg and respiratory rate was 20 / minute. The patient had right apical 2/6 systolic murmur. Hepato-splenomegaly and venous fullness were not observed. Laboratory findings were normal. Electrocardiography revealed normal sinus rhythm. Contrast-enhanced thorax computed tomography (CT) angiography showed a mass lesion in the right atrium and ventricle (Figure 1 and Figure 2). Transthoracic echocardiography performed by the cardiologist of the patient revealed a 58 x12 mm mobile mass extending from the inferior vena cava (IVC) mouth to the top of the tricuspid valve. This mass lesion was thought to be a thrombus. The patient was then evaluated for cardiovascular surgery, and mass and thrombus could not be differentiated. Transesophageal echocardiography (TEE) was recommended. Transesophageal echocardiography was performed; in the right atrium and in the right ventricle, a moving, crescent-shaped 12x15 mm lesion extending over the tricuspid valve stretching out to the inferior vena cava bifurcation from the IVC mouth with a crescent-shaped 200x58 mm moving lesion were observed. This mass lesion was thought to be thrombus. Later, medical treatment was recommended by cardiovascular surgery and hospitalization was planned by the cardiology unit. Subsequently, the patient was referred to cardiovascular surgery service due to suspicion of a mass lesion caused by the absence of regression in the thrombus. Histopathological examination of the operation performed by cardiovascular surgery was compatible with myxoma. After the operation, anticoagulant treatment was initiated and when the effective INR level was reached, the patient was healed and discharged. Echocardiography was normal in the outpatient follow-up and the patient was recommended to continue the outpatient follow-up.

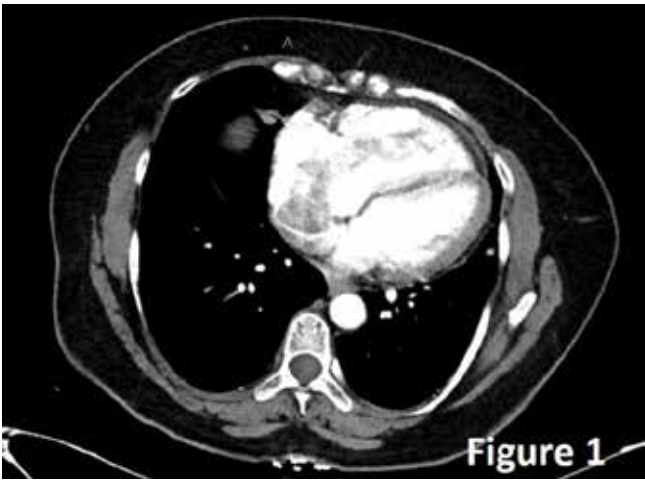


Figure 1. CT Thoracic Axial cross-sectional view of the myxoma in the right atrium of the patient



Figure 2. CT Thoracic sagittal cross-sectional view of the myxoma in the right atrium and IVC of the patient

## Discussion

Myxoma is the most common benign cardiac tumor [1]. Cardiac myxomas are rarely located in the right heart [2]. Valve placement of tumors is rare [6,7]. Although the mass was seen in both right atrium and ventricle, tricuspid valve involvement was present in our case and this is a rare condition.

The clinic of the patient varies according to the size and location of myxoma [8]. As it is seen in the literature, these cases will be asymptomatic or present non-specific symptoms such as hemodynamic disorders, peripheral, cerebral and coronary emboli, fever and fatigue, as well as mitral stenosis-like symptoms such as dyspnea, hemoptysis and chest pain. Meng et al. found that 4% of the cases were asymptomatic [9]. Printer et al. in their study, presented only asymptomatic patients suspected of cardiac murmur [10]. Our case was admitted to the emergency department with chest pain and dyspnea.

Echocardiography plays an important role in the diagnosis, treatment, and follow-up of patients with myxoma. However, CT imaging used for differential diagnosis showed its importance once again in cases like ours where patients present with chest pain and thoracic CT angiography revealed mass lesion [11,12]. The primary treatment approach in the treatment of myxoma is surgery. Life expectancy with surgery is close to perfect [13]. In our case, we detected the mass by CT and tried to differentiate by transthoracic and transesophageal echocardiography in order to differentiate between thrombus and mass. Then surgical treatment of the patient was planned.

Myxomas may be asymptomatic in the left atrium, reaching very large dimensions and rarely present in the right atrium and valve involvement. Cardiac myxomas should be remembered as a rare cause in young patients who come to the emergency department with nonspecific symptoms such as chest pain and shortness of breath.

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## Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

## Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

## Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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